Research & Innovative Technology Administration

Knowledge Management System

March 03, 2011

U.S. Department of Transportation
Research and Innovative Technology Administration

The RD&T Knowledge Management System (KMS)

What is the KMS?	Why do we need it?

What is the KMS?

- A publicly available, web-based, searchable database of DOT-funded RD&T projects
- A central information repository populated by existing DOT agency data sources
- Field structure:
  - Project title
  - Program
  - Short description/abstract
  - Project sponsor and performer details
  - Project status (active, completed, etc.)
  - Funding amount
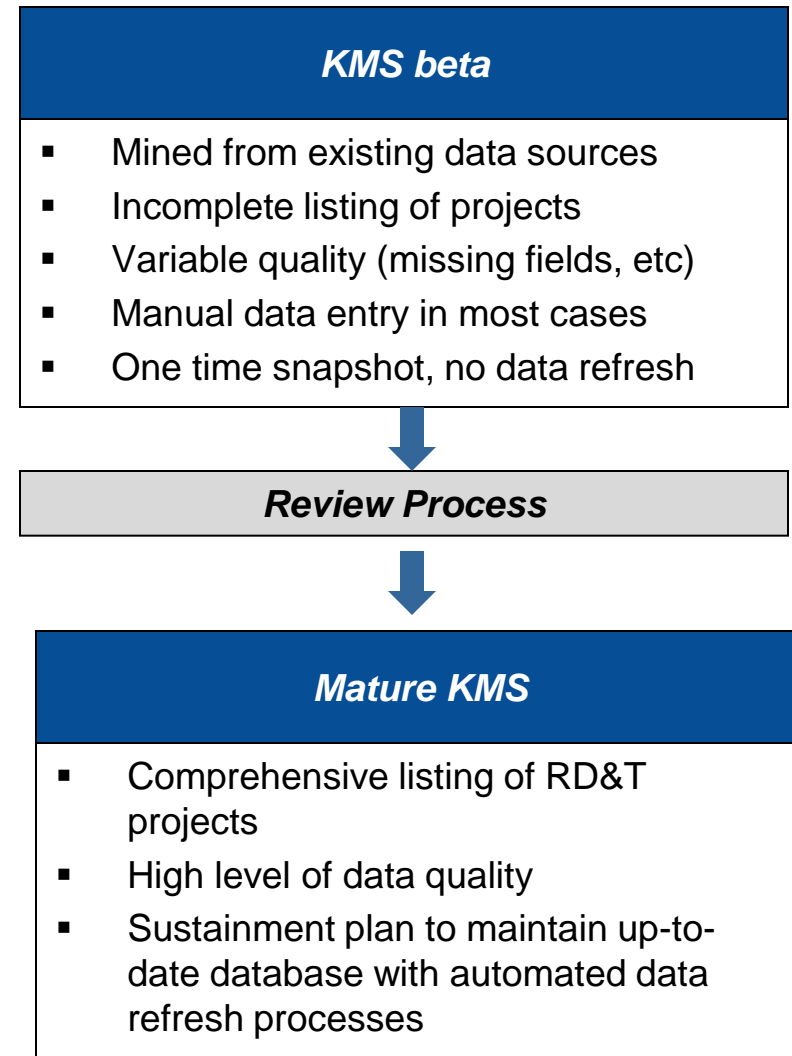 - Project findings and outcomes (reports/patents/rulemaking /new technologies, etc.)

Why do we need it?

- Assist RITA in its research coordination, facilitation, and strategic planning efforts
- Facilitate knowledge sharing and leverage opportunities for cross-modal collaboration across DOT
- Provide DOT staff with a tool to quickly answer requests from external stakeholders for information on RD&T programs and projects
- Foster research coordination and collaboration across federal and state government, academia, and industry
- Enhance D&T funding transparency in support of the Administration's Open Government initiative

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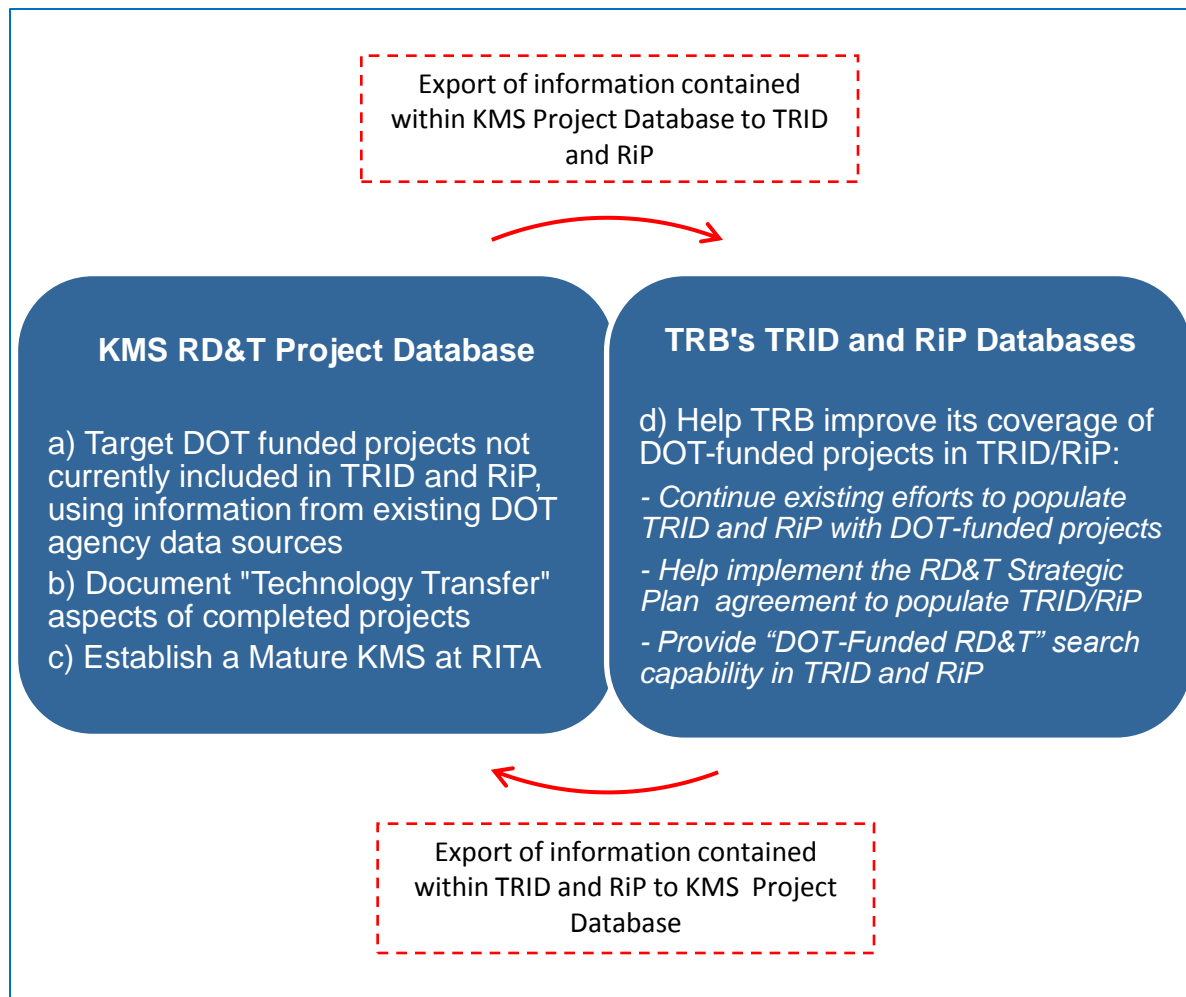**Research and Innovative Technology Administration**   2

KMS Approach

- Summer 2010 - Build KMS beta:
  - Volpe contracted to build KMS beta
  - Contains information provided by DOT operating administrations, supplemented by data from other sources like TRB
  - Includes active RD&T projects and projects completed after 9/30/2008

- Fall 2010 - Review Process:
  - Internal review by DOT staff (Oct/Nov)
  - External review by expert panel (Nov)
  - Develop KMS Evaluation Report (Nov/Dec)

- 2011 - Build Mature KMS:
  - Review KMS Evaluation Report and reach consensus on next steps
  - Migrate KMS to DOT HQ
  - Determine approach to long-term database maintenance and sustainment
  - Coordinate with TRID / RiP

KMS beta

- Mined from existing data sources
- Incomplete listing of projects
- Variable quality (missing fields, etc)
- Manual data entry in most cases
- One time snapshot, no data refresh

Review Process

Mature KMS

- Comprehensive listing of RD&T projects
- High level of data quality
- Sustainment plan to maintain up-to-date database with automated data refresh processes

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Coordination with TRB's Databases

Export of information contained within KMS Project Database to TRID and RiP

KMS RD&T Project Database

a) Target DOT funded projects not currently included in TRID and RiP, using information from existing DOT agency data sources
b) Document "Technology Transfer" aspects of completed projects
c) Establish a Mature KMS at RITA

TRB's TRID and RiP Databases

d) Help TRB improve its coverage of DOT-funded projects in TRID/RiP:
- *Continue existing efforts to populate TRID and RiP with DOT-funded projects*
- *Help implement the RD&T Strategic Plan agreement to populate TRID/RiP*
- *Provide "DOT-Funded RD&T" search capability in TRID and RiP*

Export of information contained within TRID and RiP to KMS Project Database

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RD&T KMS Home | About KMS Beta | Data Information

The Research, Development, and Technology (RD&T) Knowledge Management System (KMS)

A searchable database of Department of Transportation RD&T projects

RD&T KMS
Beta version

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Guided Search
Power Search
Cluster Search

Keyword: [_____] SEARCH

The *RD&T KMS Beta Version*

This beta version represents the first phase of the **RD&T KMS**. It is populated with information on active RD&T projects and projects completed after September 2008. The project information was provided by DOT operating administrations, supplemented by information from other sources such as the Transportation Research Board. We would like you to review this beta version and let us know what you think. We will use the feedback you provide to help us develop the mature version of the **RD&T KMS**. Potential comment areas include:

- Do the different search functions allow you to retrieve the information you need quickly and accurately?
- Are there any RD&T projects currently missing from the database that need to be added?
- Are there any additional database fields that you think should be added?
- Is there anything in the database that you think should not be there, or that should not be made available to the public?
- Is there any repeated/duplicative information that needs to be deleted?

③ Ways to search the RD&T KMS

Guided Search

Power Search

Cluster Search

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RD&T KMS Home	About KMS Beta	Data Information

The Research, Development, and Technology (RD&T) Knowledge Management System (KMS)

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RD&T KMS
Beta version

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▶ **Guided Search**
Power Search
Cluster Search

Filter By

Projects Active in Year
2011 (1156)
2010 (2151)
2009 (2248)
2008 (1429)
2007 and prior (691)
Year Unknown (425)

Sponsor
FAA (223)
FHWA (675)
FMCSA (24)
FRA (152)
FTA (285)
NHTSA (74)
PHMSA (60)
RITA (1704)

Level of Funding
Under 500,000 (2277)
500,000 to 1,000,000 (308)
Greater than 1,000,000 (324)
Funding Unknown (288)

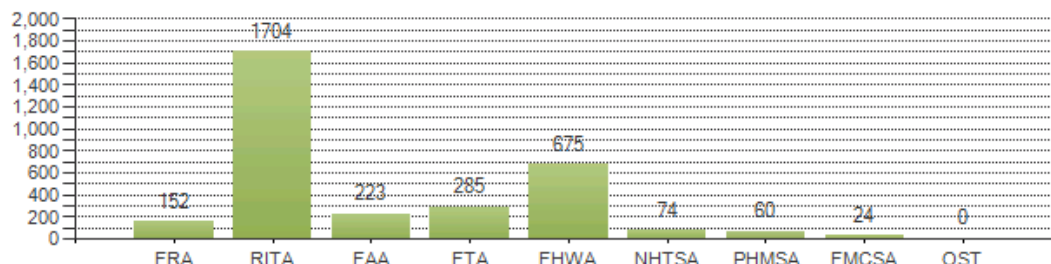**State**
AK (214)
AL (93)
AR (4)
AZ (1)
CA (296)
CO (32)
CT (8)
DE (51)
FL (88)
GA (53)

Keyword: [   ] SEARCH

Project Counts by Sponsoring Organization
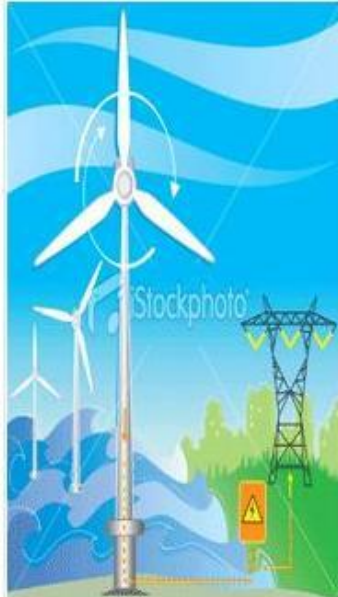
Bar chart values:
FRA: 152
RITA: 1704
FAA: 223
FTA: 285
FHWA: 675
NHTSA: 74
PHMSA: 60
FMCSA: 24
OST: 0

Search Results

Project Title	Sponsor	Performer	Start Year	End Year
07 Remote Infrared Audible Signage	FTA	Central Puget Sound Regional Transit Aut	2010	
2010 Ohio River Basin Transportation Rate Update	RITA	University of Tennessee, Knoxville (NTRC)	2010	2010
3rd Infantry Division Highway	FHWA		2010	2011
A GPS-Based Survey of Freight Movements in the Midwest Region	RITA	University of Illinois, Chicago	2010	2011
A New Graduate Course in Transportation Infrastructure Finance in the Civil Engineering Department at Texas A&M University	RITA	Texas A&M University, College Station	2010	2011
A Novel Approach to Mitigating Ballast Fouling and	RITA	University of Wisconsin,	2010	2010

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Keyword: [   ]   🔍 **SEARCH**

Use the Power Search to build your own robust query!

Projects Active in Year
(Select All | Deselect All)

☐ 2010   ☐ 2009   ☐ 2008   ☐ 2007 and prior   ☐ Year Unknown

Sponsoring Organization
(Select All | Deselect All)

☐ FAA - Federal Aviation Admin.   ☐ FHWA - Federal Highway Admin.
☐ FMCSA - Federal Motor Carrier Safety Admin.   ☐ FRA - Federal Railroad Admin.
☑ FTA - Federal Transit Admin.   ☐ NHTSA - National Highway Traffic Safety Admin.
☐ OST - Office of the Secretary of Transportation ☐ RITA - Research and Innovative Technology Admin.
☐ PHMSA - Pipeline and Hazardous Materials Safety Admin.

Award Type
(Select All | Deselect All)

☐ Contract   ☐ Grant   ☐ Inter-Agency Agreement
☐ Intra-Agency Agreement ☐ Cooperative Agreement ☐ No Award Type

Level of Funding
(Select All | Deselect All)

☐ Under 500,000   ☑ 500,000 to 1,000,000   ☐ Greater than 1,000,000   ☐ Funding Unknown

Type of Performer
(Select All | Deselect All)

☐ Non-profit   ☐ Private Industry   ☐ University   ☐ Federal Research Lab   ☐ Government

State

| Alabama |
| Alaska |
| Arizona |
| Arkansas |
| California |

>
<

Status
(Select All | Deselect All)

☐ Active   ☐ Completed

🔍 GO!

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The Research, Development, and Technology (RD&T) Knowledge Management System (KMS)

A searchable database of Department of Transportation RD&T projects

RD&T **KMS**
Beta version

Guided Search

Power Search

▶ **Cluster Search**

Search by DOT Research Cluster

- Infrastructure & Materials
- Human Factors
- Energy Sustainability
- Risk-Based Analysis to Address Safety Issues
- Data Driven Decision Making
- Multimodal Intelligent Transportation Systems
- Livability

- Modeling & Simulation
- Positioning, Navigation & Timing
- Transportation Implication For an Aging Population and Those with Special Needs
- System Resilience & Global Logistics
- Policy Analysis
- Travel Behavior
- Economics

A searchable database of Department of Transportation RD&T projects

Beta version

RD&T RSS Feed

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▶ **Guided Search**

Power Search

Cluster Search

Keyword: | SEARCH

Filter By

Projects Active in Year
2010 (1186)
2009 (1281)
2008 (807)
2007 and prior (410)
Year Unknown (86)

Sponsor
FAA (223)
FHWA (675)
FMCSA (24)
FRA (139)
FTA (285)
NHTSA (74)
PHMSA (60)
RITA (567)

Level of Funding
Under 500,000 (1221)
500,000 to 1,000,000 (224)
Greater than 1,000,000 (263)
Funding Unknown (339)

State
AL (7)
AR (1)
AZ (1)
CA (63)
CO (13)
CT (8)
DE (51)
FL (38)
GA (8)
IA (22)
ID (19)
IL (45)

Project Details

Project Title	Aqueous Ethanol Ignition & Engine Studies, Phase II
Program	University Transportation Centers Program
Abstract	During the first year of this project, we will use our new heavy fuel evaporator and second plug-flow reactor to expand the range of catalysts, alternative biofuels, and ethanol-oxygen mixtures that we can test. In our engine laboratory we will acquire data with our Cooperative Fuel Research (CFR) engine to understand the differences between blended and separate injection of aqueous fuels, design/fabricate different igniter configurations for timing studies, and install a dilution tunnel/TEOM purchased from another grant. We will continue to make our laboratories available to other researchers and instructors in the Center for Clean Vehicle Technology. Outcomes of this work will include: 1) key information (light-off temperature and heat generation rate) needed for engineering timing models used to optimize igniter design; 2) design specifications and performance predictions for engine designs that are optimized for igniter systems; and 3) infrastructure improvements that enhance our competitiveness in state and federal funding programs.
Sponsoring Organization	RITA
Sponsor Contact / Sponsor Contact Address	Mercado, Lydia
Sponsor Contact Phone / Sponsor Contact Fax / Sponsor Contact Email	1-202 3663372 / 1-202 4932993 / lydia.mercado@.dot.gov
Performer / Performer Address	University of Idaho, Moscow / National Institute for Advanced Transportation Technology, 115 Engineering Physics Building Moscow ID 83844-0901
Project Status / Project Start Date / Project End Date / Project Funding Amount	Active / 8/16/2010 / / $85,647.00
Project Findings & Outputs	

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QUESTIONS?

For more information:

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